



REMARKS

Independent claims 1, 17 and 37 have been amended and new independent claims 70-72 have been added to more particularly point out and distinctly claim Applicant's invention. Claims 13, 20, 29 and 49 have been cancelled in their entirety, without prejudice. Cancelled dependent claims 13, 29 and 49 have been rewritten in independent format and presented as new claims 70-72, respectively. Accordingly, claims 14-16, 30-32 and 50-52 have been amended to ensure for proper dependency. New matter is not introduced by this amendment. Specifically, support for inclusion of the phrase "positioned about the exterior" in independent claims 1 and 37 is located on page 16, lines 5-7 of the specification and drawing Figs. 1, 2 and 4, as originally filed.

Claims 1-16 and 37-55 stand rejected under 35 U.S.C. §102 (b) as being anticipated by Gonzalez (U.S. Patent No. 4,656,944). Gonzalez discloses a well perforator system and method wherein a tubing 14 extends through bore hole or casing 10 and has a perforator gun assembly 15 suspended on the lower end thereof. The lower end of tubing 14 is threaded into the upper end of a housing 25 of circulating gun interval 17. The hollow interior 26 of housing 25 contains two antennae 27a and 27b. An antenna wire 28a extends from antenna 27a through one of the conduits 29 formed in the wall of housing 25 to an electromagnetic receiver 30 in housing 25. Receiver 30 is connected to a blasting cap 31 by wire 32 and blasting cap 31 is connected to the circulation guns 33 by detonation cord 34. Wire 28b extends from antenna 27b through another of the conduits 29 formed in the wall of housing 60 to receiver 30a. Similarly, the receivers associated with gun intervals 19 and 20 receive different frequency signals from other antennae by means of wires extending through other conduits.

Electromagnetic signal generator 21 is located at the earth's surface to transmit electromagnetic wave signals of different frequencies down dry tubing 14 to actuate each gun interval. In operation, the generator 21 transmits a signal of predetermined frequency down tubing 14 which is picked up by one of the antennae 27 and transmitted by wire 28 in one of the conduits to lower gun housing 60b where the signal is received in the receiver and transmitted to the blasting cap causing the detonation cord to fire the guns to perforate producing interval or formation 13. In a similar manner, different wave frequencies are transmitted by the electromagnetic signal generator 21 down tubing 14 to middle and upper gun housings 60a and 60 to perforate intervals 12 and 11, respectively. Thereafter, a different fourth frequency is transmitted by electromagnetic signal generator 21 down tubing 14 and is picked up by antenna 27a in circulation gun housing 25 so as to fire circulation charges 33.

In contrast, independent claim 1 of the instant application, as amended, calls in part for "...an antenna electrically connected to said responding device and positioned about the exterior of said asset ...", while independent claim 37, as amended, calls in part for "...an antenna electrically connected to said responding device and positioned about the exterior of said generally tubular body." Gonzalez is totally devoid of any disclosure, suggestion and/or teaching of positioning an antenna (that is electrically connected to a responding device) about the exterior of an asset or generally tubular body. The antennae 27a and 27b of Gonzalez are clearly positioned within the interior 26 of housing 25. It is well settled that an anticipatory reference under 35 U.S.C. §102 must identically disclose every claimed element of the anticipated invention. It is submitted that Gonzalez does not

identically disclose or describe an assembly as set forth in independent claims 1 and 37 of the instant application having an antenna positioned about the exterior of an asset or generally tubular body. In view of the foregoing, it is submitted that the rejection of claims 1-16 and 37-55 under 35 U.S.C. §102 (b) as being anticipated by Gonzalez is improper and should be withdrawn.

Nor would it be obvious to a skilled artisan to place either of the antennae 27a or 27b of Gonzalez on the exterior of housing 25 since to do so would destroy the express function of signal generator 21 to transmit electromagnetic signals from the surface down tubing 14 so as to be picked up by antennae 27a and/or 27b in the interior 26 of housing 25.

The Examiner further noted that Gonzalez discloses an antennal that extends substantially around the outer periphery as called for in dependent claims 4 and 40. It is submitted again that Gonzalez does not disclose an antenna positioned outside of housing 25 let alone an antenna that extends substantially around the outer periphery. Further, the disclosure of conduits 29 formed in the wall of housing 25 is not tantamount to a disclosure of a groove in the outer surface of an asset or a generally tubular body.

Claims 17-36 stand rejected under 35 U.S.C. §102 (b) as being anticipated by Wisler et al. (U.S. Patent No. 5,530,358). Wisler et al. discloses a method and apparatus for measurement-while-drilling utilizing improved antennas. As illustrated in Figs. 4a and 4b, a modified tubular 39, 41 includes an outer peripheral surface 43 which includes contoured portion 45 which includes a plurality of discrete communication regions 47 of reduced radial dimension. These discrete communication regions are in the form of a plurality of axial slots formed within modified tubular 39 and spaced about

the outer peripheral surface 43 in a predetermined manner. As illustrated in Fig. 4a, axial slots 51, 53, 57, 59, 61, 63, 65, 67, 69 and 71 are separated by land members 73, 75, 77, 79, 81, 85, 87 and 89 of a radial dimension equal to that of the outer peripheral surface 43 of modified tubular 39. Two antenna pathways 91 and 93 are generally circular in shape and transverse in orientation to both the longitudinal axis of modified tubular 39 and discrete communication regions 47. These antenna pathways 91, 93 extend through each of the land portions which are disposed between the axial slots. Typically, the modified tubular is formed of steel so the antenna windings disposed in the antenna pathways 91, 93 will communicate electromagnetic energy (either transmission or receiving) through the portions of the antenna windings disposed within discrete communication regions but will not perform any substantial communication in those portions which are disposed in segments of the antenna pathways 91, 93 that are enclosed by the material with forms modified tubular 39, i.e. disposed within the land members.

In contrast, independent claim 17 of the captioned application calls for an antenna electrically connected to a responding device that in turn is connected to a tubular. The antenna extends substantially around the entire outer periphery of the tubular. Clearly, Wisler et al. does not disclose an antenna that extends "substantially around the entire outer periphery of a tubular" as set forth in claim 17 but instead discloses an antenna that is disposed in antenna pathways (91,93) that extend through land portions which have a radial dimension equal to that of the outer peripheral surface 43 of modified tubular 39. The Examiner commented that "Wisler et al. discloses that the antenna 91 or 93 (col. 9, lines 19+) extends substantially

around the outer peripheral (Fig. 8). Fig. 8 is a longitudinal section view taken along section line A-A of Fig. 7, i.e. taken along axial slot 137 on one side of the modified tubular. The antennae of Wisler et al. are positioned on the outer periphery of the modified tubular as disposed in the axial slots but are not positioned on the outer periphery of land portions as the antennae are positioned in antennae pathways 91, 93 which extend through the land portions (Figs. 4A and 8). As previously discussed, it is well settled that an anticipatory reference under 35 U.S.C. §102 must identically disclose every claimed element of the anticipated invention. It is submitted that Wisler et al. does not identically disclose or describe an assembly as set forth in independent claim 17 of the instant application having an antenna that extends substantially around the entire outer periphery of a tubular. In view of the foregoing, it is submitted that the rejection of claims 17-36 under 35 U.S.C. §102 (b) as being anticipated by Gonzalez is improper and should be withdrawn.

Nor would it be deemed obvious to a skilled artisan to modify the antennae of Wisler et al. to extend substantially around the entire outer periphery of modified tubular 39 since to do so would destroy the express function of Wisler et al. of forming discrete communication regions.

Claims 56-61 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over Gonzalez in view of Bauerschmidt et al. (U.S. Patent No. 6,081,729). Bauerschmidt et al. discloses an encapsulated tubular conductor having at least two antenna elements disposed on the capsule thereof for maintaining wireless transmission. As illustrated in Fig. 1, surface acoustic wave sensors 7a-d are each provided with antenna 9 for transmitting information to antenna 11 which is connected to

a control and monitoring device 15 by suitable lines 13, for example coaxial cable. Antenna 11 is secured in a fixed position within switch-gear assembly 1 as are sensors 7a-k. While sensor 7d is arranged on a moving part of the switching device 3, movement thereof as indicated by the arrows on Figs. 1-3 is radial and not longitudinal with respect to antenna 11. The Examiner notes that Gonzalez "fails to disclose a transceiver positioning in proximity interior and/or exterior of the tubular" and applies the teachings of Bauerschmidt et al. to rectify this deficiency. However, it is submitted that Bauerschmidt et al. does not disclose positioning a transceiver in proximity to an asset having a responding device. In fact, the transceiver of Bauerschmidt et al., i.e. monitoring device 15, cable 13 and antenna 11 are fixed with respect to the tubular conductor as are sensors 7a-c and 7e-k and associated antennae 9. In fact the only moving sensor is 7d, the slight radial movement of which does not position it closer to the transceiver. It is submitted that a skilled artisan in possession of the disclosure of Bauerschmidt et al. would not be led to position a transceiver in proximity to an asset having a responding device since Bauerschmidt et al. is totally devoid of any disclosure, suggestion and/or teaching to do so, let alone of passing a transceiver along the exterior or through the interior of an asset as called for in claims 57 and 58, respectively, or of passing a second transceiver through the interior of an asset as called for in claim 59. In view of the foregoing, it is submitted that the rejection of claims 56-61 under 35 U.S.C. §103 (a) as being unpatentable over Gonzalez in view of Bauerschmidt et al. is improper and should be withdrawn.

Claims 62-67 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over Gonzalez in view of Bauerschmidt et al. and further in view of Mischenko et al.

(U.S. Patent No. 6,243,041). The Examiner commented that "Gonzalez as modified by Bauerschmidt et al. fails to teach that there is no rotational orientation consideration between the transceiver and responding device via the antenna." Mischenko et al. discloses techniques for providing a rotatable connection between an antennal assembly and a transceiver so as to permit a radiotelephone transceiver handset to communicate with a moving satellite. It is submitted that a skilled artisan would not look to the disclosure of Mischenko et al. which relates to cell phone transmissions to satellites to modify the disclosure of Gonzalez. For this reason and for reasons previously advanced, it is submitted that the rejection of claims 62-67 under 35 U.S.C. §103 (a) as being unpatentable over Gonzalez in view of Bauerschmidt et al. and further in view of Mischenko et al. is improper and should be withdrawn.

Claims 68 and 69 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over Gonzalez in view of Thomas (U.S. Patent No. 6,288,685). Thomas discloses a serrated slot antenna for use in remote metering applications, such as water metering. The slot antenna 10 consists of two annular conductors 12, 14 joined by a conductive shorting post 18 and separated by a slot 20. The antenna is driven by signals from a bipolar signal feed element 24, such as a coaxial cable. The conductors typically wrap around a cylindrically-shaped dielectric insulator 22 and the annular conductors 12, 14 and shorting post 18 may be fastened to insulator 22 in many ways, such as by a conductive strip with adhesive backing. This antenna 10 is connected to a transceiver , e.g. 34 in Fig. 5. There is no disclosure suggestion or teaching of positioning an asset within either the transceiver 34 or antenna 10 of Thomas which in the latter instance would be impossible when an insulator is positioned within the annular conductors of

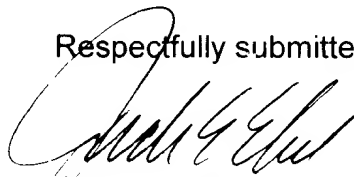
the antenna. For this reason and for reasons previously advanced with respect to Michenko et al. (as pertains to the rejection of claim 69 further in view of Michenko et al.), it is submitted that the rejection of claims 68 and 68 under 35 U.S.C. §103 (a) as being unpatentable over Gonzalez in view of Thomas (and claim 69 as further in view of Michenko et al.) is improper and therefore should be withdrawn.

The abstract of the disclosure was objected to by the Examiner as containing the term "such as" which was deemed inappropriate. The abstract has been amended to replace this term with "particularly". In light of this amendment, the objection to the abstract should be withdrawn.

The citation or prior art made of record and not relied upon is acknowledged. However, a detailed discussion thereof is deemed unnecessary because the claims of the instant application were not rejected thereunder.

In view of the foregoing, it is submitted that neither Gonzalez nor Wisler et al. nor Bauerschmidt et al. nor Mischenko et al. nor Thomas anticipates or renders the claimed subject matter of the instant application obvious to one of ordinary skill in the art. Thus, allowance of claims 1-12, 14-19, 21-23, 30-48 and 50-72 is solicited.

Respectfully submitted,



Jack E. Ebel
Attorney for Applicant
Reg. No. 28,148
(303) 239-9883



Version with markings to show changes made

In the Specification

An assembly and process for identifying and tracking assets, [such as] particularly tubulars, equipment, tools and/or devices. An antenna is electrically connected to a responding device, such as a radio frequency identification device, and this assembly is connected to an asset. The antenna may be positioned about the exterior and/or the interior of the asset and significantly increases the range of signals that may be received and/or broadcast by the responding device. A transceiver may accordingly be positioned a greater distance from the asset without regard to the orientation of the asset and still permit communication between the transceiver and the responding device. In this manner, information that specifically identifies the asset may be compiled in a data base so as to maintain an accurate history of the usage of such assets as tubulars, equipment, tool and/or devices.

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In the Claims

1. (Amended) An assembly for identifying and tracking an asset comprising:
 - a responding device adapted to be connected to an asset; and
 - an antenna electrically connected to said responding device and positioned about the exterior of said asset.
14. (Amended) The assembly of claim [13] 70 wherein said responding device is positioned within a hole in said asset.
15. (Amended) The assembly of claim [13] 70 wherein at least a portion of the interior of said asset has screw threads.
16. (Amended) The assembly of claim [13] 70 wherein said second antenna is embedded in a ring having a threaded outer surface that is mater with said screw threads of said interior of said asset.
17. (Amended) An assembly for use as a fluid conduit comprising:
 - a tubular;
 - a responding device connected to said tubular; and
 - an antenna electrically connected to said responding device and extending substantially around the entire outer periphery of said tubular.
30. (Amended) The assembly of claim [29] 71 wherein said responding device is positioned within a hole in said tubular.
31. (Amended) The assembly of claim [29] 71 wherein at least a portion of the interior of said generally tubular body has screw threads.

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32. (Amended) The assembly of claim [29] 71 wherein said second antenna is embedded in a ring having a threaded outer surface that is mater with said screw threads of said interior of said tubular.

37. (Amended) An assembly for use as a fluid conduit comprising:

a tubular;

a collar releasably secured to one end of said tubular, said collar comprising a generally tubular body;

a responding device connected to said generally tubular body; and

an antenna electrically connected to said responding device and positioned about the exterior of said generally tubular body.

50. (Amended) The assembly of claim [49] 72 wherein said responding device is positioned within a hole in said generally tubular body.

51. (Amended) The assembly of claim [49] 72 wherein at least a portion of the interior of said generally tubular body has screw threads.

52. (Amended) The assembly of claim [49] 72 wherein said second antenna is embedded in a ring having a threaded outer surface that is mater with said screw threads of said interior of said generally tubular body.